U.S. Department
of Transportation

**Pipeline and
Hazardous Materials
Safety Administration**

**East Building, PHH-23
1200 New Jersey Avenue SE
Washington, D.C. 20590**

**COMPETENT AUTHORITY CERTIFICATION
FOR A TYPE B(U)F FISSILE
RADIOACTIVE MATERIALS PACKAGE DESIGN
CERTIFICATE USA/0452/B(U)F-96, REVISION 11**

**REVALIDATION OF JAPANESE COMPETENT AUTHORITY
CERTIFICATE J/119/B(U)F-96**

This certifies that the radioactive material package design described is hereby approved for use within the United States for import and export shipments only. Shipments must be made in accordance with the applicable regulations of the International Atomic Energy Agency[1] and the United States of America[2].

1. Package Identification - JRF-90Y-950K.

2. Package Description and Authorized Radioactive Contents - as described in Japan Certificate of Competent Authority J/119/B(U)F-96, dated October 31, 2006 (attached).

3. Criticality - The minimum criticality safety index is 0.0. The maximum number of packages per conveyance is determined in accordance with Table X of the IAEA regulations cited in this certificate.

4. General Conditions -

   a. Each user of this certificate must have in his possession a copy of this certificate and all documents necessary to properly prepare the package for transportation. The user shall prepare the package for shipment in accordance with the documentation and applicable regulations.

   b. Each user of this certificate, other than the original petitioner, shall register his identity in writing to the Office of Hazardous Materials Technology, (PHH-23), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, Washington D.C. 20590-0001.

   c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.

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[1] "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency(IAEA), Vienna, Austria.

[2] Title 49, Code of Federal Regulations, Parts 100-199, United States of America.

d. Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations[1] shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors in the United States exporting shipments under this certificate shall satisfy the applicable requirements of Subpart H of 10 CFR 71.

5. Special Conditions -

a. For shipments which enter into or transit the United States, all international approvals and revalidations, including Approval of Packaging and Confirmation of Packaging certificates issued by the government of Japan, shall be issued prior to the commencement of transport.

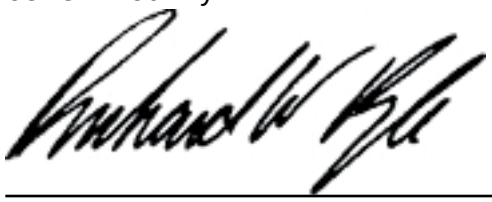
b. In accordance with the attached Japanese Certificate of Competent Authority, the package is not to be transported by air.

6. Marking and Labeling - The package shall bear the marking USA/0452/B(U)F-96 in addition to other required markings and labeling.

7. Expiration Date - This certificate expires on October 12, 2009.

This certificate is issued in accordance with paragraph 814 of the IAEA Regulations and Section 173.472 and 173.473 of Title 49 of the Code of Federal Regulations, in response to the February 26, 2007 petition by Edlow International Company, Washington, DC, and in consideration of other information on file in this Office.

Certified By:



Jul 31 2007

Robert A. Richard (DATE)
Deputy Associate Administrator for Hazardous Materials Safety

Revision 11 - issued to endorse Japanese Certificate of Competent Authority No. J/119/B(U)F-96 dated October 31, 2006 and to extend the expiration date.

IDENTIFICATION MARK
J/119/B(U)F-96

COMPETENT AUTHORITY
OF
JAPAN

CERTIFICATE OF APPROVAL OF PACKAGE DESIGN
FOR THE TRANSPORT OF RADIOACTIVE MATERIALS

ISSUED BY MINISTRY OF EDUCATION, CULTURE,
SPORTS, SCIENCE AND TECHNOLOGY
2-5-1 MARUNOUCHI, CHIYODA-KU, TOKYO, JAPAN

CERTIFICATE OF APPROVAL OF PACKAGE DESIGN FOR THE TRANSPORT OF RADIOACTIVE MATERIALS

This is to certify, in response to the application by Japan Atomic Energy Agency on October 10, 2006, that the Design of Package described herein satisfies the design requirements of Type B(U)F specified in "Regulations for the Safe Transport of Radioactive Material (International Atomic Energy Agency, Safety Standards Series No. TS-R-1 1996 Edition (As Amended 2003))" and the Japanese rules based on the Law on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors.

COMPETENT AUTHORITY
IDENTIFICATION MARK : J/119/B(U)F-96

October 31, 2006
Date

for Kaoru Koshara
Kimihiko Oda

Director General,
Science and Technology Policy Bureau,
Ministry of Education, Culture,
Sports, Science and Technology .
Competent Authority of Japan for
Package Designs of Radioactive Materials

1. NAME OF PACKAGE : JRF-90Y-950K
(IDENTIFICATION MARK : J/119/B(U)F-96)

2. SPECIFICATION OF CONTENTS
(1) Description of Contents
1) Physical State : See Table 1 & 2
2) Uranium-235 Enrichment : See Table 1 & 2
(2) Qualitative Restrictions on Contents
1) Gross Weight of Uranium : See Table 1 & 2
2) Gross Weight of Contents : See Table 1 & 2
3) Total Activity of Contents : See Table 1 & 2
4) Burnup : See Table 1 & 2
5) Total Heat Generation : See Table 1 & 2
6) Cooling Time : See Table 1 & 2
7) Number of Fuel Elements : See Table 1 & 2

3. SPECIFICATION OF PACKAGE
(1) Total Weight of Package : 950 kg or less
(2) Outside Dimension of Packaging
1) Diameter : Approx. 840 mm
2) Height : Approx. 1,800 mm
(3) Materials of Packaging
1) Main body : Stainless Steel, Balsa Wood
2) Outer Lid : Stainless Steel
3) Inner Lid : Stainless Steel
4) Fuel Basket : Stainless Steel
(4) Package Illustration : See Fig. 1

4. RESTRICTIONS ON TRANSPORT
1) Number of Packages : No restriction
2) Package Arrangement : No restriction
3) Criticality Safety Index : 0

5. SPECIAL FEATURES ASSUMED IN THE CRITICALITY ASSESSMENT

: Not applicable

No special features, because the subcriticality calculation is evaluated upon the assumption that the inner shell is in immersion condition by water under the normal conditions and the accident conditions in transport.

6. RESTRICTIONS ON THE MODES OF TRANSPORT

It is not confirmed that the design of package satisfies the additional requirements for packages transported by air.

7. INSTRUCTIONS ON USE AND MAINTENANCE OF PACKAGING

The packaging shall be handled with care in accordance with the operating manual. In order to ensure the integrity of packaging, the following inspection shall be performed at least once a year (In case frequency of transport exceeds 10 times a year, the inspections shall be done at least once per every 10 times.).

(1) Visual Appearance Inspection
(2) Pressure Durability Inspection
(3) Maintenance of O-ring Used for Containment System
(4) Leakage Rate Measurement Inspection
(5) Subcriticality Inspection

8. ACTION PRIOR TO SHIPMENT

Each package shall be inspected for the following items prior to each shipment.

(1) Visual Appearance Inspection
(2) Lifting Inspection
(3) Weight Measurement Inspection
(4) Surface Contamination Measurement Inspection
(5) Radiation Dose Rate Measurement Inspection
(6) Subcriticality Inspection
(7) Contents Specification Check Inspection
(8) Leakage Rate Measurement Inspection

9. PRECAUTIONS FOR LOADING OF PACKAGES FOR TRANSPORT

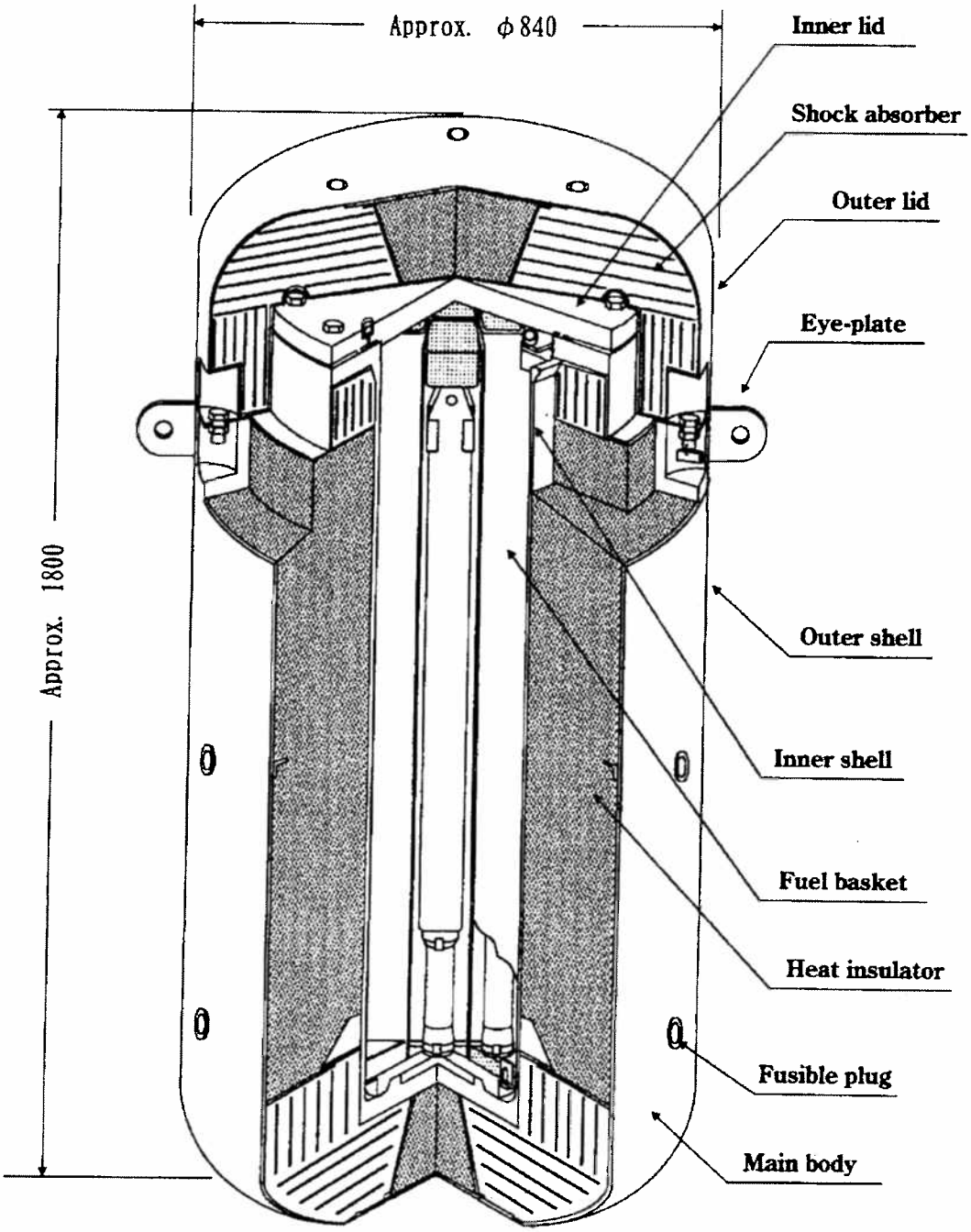
Loading of the packages shall be performed such that the package will not move, roll down or fall down during transport.

10. EXPIRY DATE

October 12, 2009

11. NOTE

This certificate does not relieve the consignor from compliance with any requirement of the government of any country through or into which the package will be transported.



Unit : mm

Fig.1 Package Illustration

Table 1 Specification of Contents (Fresh Fuel Element)

Fuel Basket Type		Box							
Type	Reactor	J R R − 3		J R R − 4			J M T R		
	Fuel Element	J R R − 3 Standard	J R R − 3 Follower	J R R − 4 B	J R R − 4 L	J R R − 4	J M T R Standard		J M T R Follower
Gross Weight of Contents (kg-U/Package)		24.81 or less	15.86 or less	1.83 or less	11.77 or less	10.75 or less	7.28 or less	21.74 or less	14.33 or less
Total Activity of Contents (GBq/ Package)		29.8 or less							
Physical State	Materials of Nuclear Fuel	Uranium Silicon Aluminum Dispersion Alloy		Uranium Aluminum Alloy	Uranium Aluminum Dispersion Alloy	Uranium Silicon Aluminum Dispersion Alloy	Uranium Aluminum Dispersion Alloy	Uranium Silicon Aluminum Dispersion Alloy	
	Clad	Aluminum Alloy							
	Side Plate, etc.	Aluminum Alloy							
	Burnable Absorber	Cadmium Wire		—				Cadmium Wire	
U-235 Enrichment (wt%)		19.95 or less		93.3 or less	19.95 or less		46.0 or less	19.95 or less	
Burnup (%)		0 (Fresh Fuel)							
Total Heat Generation (W/Package)		0 (Fresh Fuel)							
Cooling Time (Day)		0 (Fresh Fuel)							
Gross Weight of Contents (kg/Element)		9.2	6.0	6.3	7.9	6.5	7.6	8.4	5.8
Number of Fuel Elements (Element/Package)		10 or less							

Table 2 Specification of Contents (Lowly Irradiated Fuel Element)

Fuel Basket Type		Box							
Type	Reactor	J M T R C							
	Fuel Element	J M T R C Standard	J M T R C Special		J M T R C Follower	J M T R C Standard	J M T R C Special		J M T R C Follower
Gross Weight of Contents (kg-U/Package)		3.18 or less			2.22 or less	7.21 or less	6.50 or less		4.78 or less
Total Activity of Contents (GBq/ Package)		17.3 or less							
Physical State	Materials of Nuclear Fuel	Uranium Aluminum Alloy				Uranium Aluminum Dispersion Alloy			
	Clad	Aluminum Alloy							
	Side Plate, etc.	Aluminum Alloy							
U-235 Enrichment (wt%)		90.0 or less				46.0 or less			
Burnup (%)		7.23×10^{5} or less				1.76×10^{5} or less			
Total Heat Generation (W/Package)		4.30×10^{5} or less							
Cooling Time (Day)		5475 or more				1460 or more			
Gross Weight of Contents (kg/Element)		6.3	8.0	4.6	8.3	4.1	6.7	8.3	4.4
Number of Fuel Elements (Element/Package)		10 or less							

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CERTIFICATE NUMBER: USA/0452/B(U)F-96, Revision 11

ORIGINAL REGISTRANT(S):

Mr. Blake Williams
Director, Spent Fuel Services
Edlow International Company
1666 Connecticut Ave., N.W.
Suite 201
Washington, 20009
USA

Mr. Kinion Proctor
Transportation Manager
Edlow International Company
1666 Connecticut Ave, N.W.
Suite 201
Washington, 20009
USA

Mr. Mark Campbell
Edlow International Company
3901 Castle Hayne Rd.
M/C K01
Wilmington, 28402
USA

REGISTERED USER(S):

Mr. Julio Raffo
Director of Transport Operations
Transnuclear, Inc.
7135 Minstrel Way
Suite 300
Columbia, 21045
USA